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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------|------------------|
| 10/021,929 | 12/13/2001 | Katrina G. Desroches | PGI6044P0271US | 2205 |
| 32116 | 7590 | 09/18/2006 | EXAMINER | |
| WOOD, PHILLIPS, KATZ, CLARK & MORTIMER 500 W. MADISON STREET SUITE 3800 CHICAGO, IL 60661 | | | TORRES VELAZQUEZ, NORCA LIZ | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1771 | |

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|---------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/021,929 | DESROCHES ET AL. | |
| | Examiner | Art Unit | |
| | Norca L. Torres-Velazquez | 1771 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-15 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 17, 2006 has been entered.

Response to Amendment

2. Independent claim 12 has been amended. No new matter has been included in the claim. The Examiner finds support for the new limitations in [0010] and [0029] of the Specification of the application's related Pub. No. 2002/0137421 A1. Pending claims are 1-12, 15 and 19-22. Claims 1-11 remain withdrawn.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12, 15 and 19-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over FRANK (US 5,492,580).

FRANK relates to nonwoven composite materials adapted for thermoforming that have enhanced stiffness/weight ratios and enhanced resistance to shrinkage during thermoforming. (Col. 1, lines 10-16). The reference teaches the use of the nonwoven composite materials in applications such as trunk liners, dash panel or any other type of part. (Col. 1, line 29; Col. 2, line 19). The shaped nonwoven molded composite material is made by forming a batt of thermoplastic fibers that includes first fibers and second fibers with the second fibers having a melting point lower than that of the first fibers. The batt is needle punched or stitch bonded into a nonwoven porous consolidated structure, and then the structure is heated to a temperature below the melting point of the first fibers and above the melting point of the second thermoplastic fibers. The structure is compressed and cooled to form a moldable composite material having substantially reduced air voids. Then the moldable composite material is thermoform molded into a shaped nonwoven molded composite material. (Refer to claim 1) FRANK also teaches that bicomponent fibers may be utilized as both first and second fibers. (Col. 3, lines 65-66) With regards to the new limitations reciting that the binder component melts and flows into fiber-to-fiber junctions forming fiber-to-fiber bonds, it is noted that the process taught by FRANK encompass the formation of fiber-to-fiber bonds. While FRANK discloses encapsulation of the matrix fibers by the melted binder fibers, the binder fiber is still responsible for bonding the matrix fibers.

It is the Examiner's interpretation that the second thermoplastic fibers of the reference equate to the heat activated binder component of the fibrous mat of the present invention and that

the thermoform molding step of the reference equate to the step to form the final molded construct of the present invention. The moldable composite material is equated to the presently claimed "incubated and cooled fibrous mat".

With regards to the stiffness performance limitation in the last paragraph of claim 12, it is noted that such limitation does not have an effect on the final product of the present invention as the limitation is relative to the stiffness of an intermediate product that is not claimed. Therefore, it is the Examiner's position that the molded construct of FRANK would inherently possess stiffness.

The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of a greater stiffness performance of at least 15% is relative to an intermediate product not claimed and has no effect on the final product. Therefore, a final product with stiffness would obviously have been present once the FRANK product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

4. Claims 12, 15 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over WEINLE et al. (US 4,840,832) in view of FRANK (US 5,492,580).

WEINLE et al. discloses a textile-based product for use as a headliner that is formed from a batt of polymeric fibers compressed and molded into the desired headliner shape. (Column 1, lines 67-68 through Column 2, lines 1-2) The polymeric fibers of the batt preferably include potentially adhesive binder fibers which are thermally activated during the molding of the batt to bond together the fibers of the batt at their crossover points, thereby maintaining the batt in its molded shape while providing resiliency and flexibility to the batt. The reference teaches the use

of bicomponent fibers having a relatively low melting polymer binder component and a higher melting polymer strength component as binder fibers. (Column 2, lines 9-17) The reference teaches the use of a sheath-core bicomponent construction wherein the core is formed of a relatively high melting polyethylene terephthalate (PET) polymer and the sheath comprises a PET copolymer having a much lower melting temperature and which exhibits thermoplastic adhesive and thermoformability properties when heated to a temperature of about 170 to 200 degree C. (Column 4, lines 24-31) WEINLE et al. further teaches the use of staple length fibers. (Column 4, lines 50-51) WEINLE et al. also teaches applying heat at a temperature and for a time sufficient to activate the potentially adhesive characteristics of the thermoplastic binder fibers, molding and cooling the batt. (Column 5, lines 65 through Column 6, lines 1-10)

The reference further teaches the steps involved in producing the nonwoven batt that involves blending the textile staple fibers, than formed into a web by air-laying, garneting or carding, the web may be crosslapped, optionally needled to form a coherent self-sustaining batt or alternatively, heat stabilized. (Refer to Column 5, lines 45-62). It is further noted that the WEINLE et al. reference teaches the use of those materials described by Applicants in the Specification. (i.e. staple length fibers, sheath-core bicomponent fibers with a polyester core component and a co-polyester sheath component as a binder fiber, mechanical entanglement for pre-consolidation).

WEINLE et al. is silent to cooling the batt after heat activating the binder fibers.

FRANK relates to nonwoven composite materials adapted for thermoforming that have enhanced stiffness/weight ratios and enhanced resistance to shrinkage during thermoforming. (Col. 1, lines 10-16). The shaped nonwoven molded composite material is made by forming a

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batt of thermoplastic fibers that includes first fibers and second fibers with the second fibers having a melting point lower than that of the first fibers. The batt is needle punched or stitch bonded into a nonwoven porous consolidated structure, and then the structure is heated to a temperature below the melting point of the first fibers and above the melting point of the second thermoplastic fibers. The structure is compressed and cooled to form a moldable composite material having substantially reduced air voids. Then the moldable composite material is thermoform molded into a shaped nonwoven molded composite material. (Refer to claim 1)

Since both references are directed to molded materials, the purpose disclosed by FRANK would have been recognized in the pertinent art of WEINLE.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify web of WEINLE and provide a cooling step prior to thermoform molding it with the motivation of producing a material that is resistant to shrinkage when subjected to subsequent thermoform molding and that has enhanced stiffness as disclosed by FRANK. (Refer to Claim 1 and Col. 1, line 15)

Response to Arguments

5. Applicant's arguments filed August 17, 2006 have been fully considered but they are not persuasive.

a. Applicants argue that FRANK teaches away from the claimed invention by teaching matrix fibers encapsulated entirely by the resin formed from the second melted fibers and by not providing a fiber-to-fiber point bonded fibrous mat.

It is the Examiner's position that the process taught by FRANK encompasses the formation of fiber-to-fiber bonds. While FRANK discloses encapsulation of the matrix

fibers by the melted binder fibers, the binder fiber is still responsible for bonding the matrix fibers. It is the Examiner's interpretation that the material taught by FRANK is provided of fiber-to-fiber bonds by the melted binder fibers.

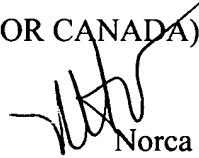
b. With regards to the WEILE et al. reference, Applicants argue that this reference makes a vague, non-enabling reference to a "heat stabilized" web provided by "passing heated air or steam through the batt". (Col. 5, lines 60-62) And that it fails to teach a fiber-to-fiber point bonded mat.

It is noted that WEILE et al. teaches that the polymeric fibers of the batt preferably include potentially adhesive binder fibers which are thermally activated during the molding of the batt to bond together the fibers of the batt at their crossover points, thereby maintaining the batt in its molded shape while providing resiliency and flexibility to the batt. (Column 2, lines 9-17) It is the Examiner's position that the above disclosure reads on the claimed fiber-to-fiber bonds. It is further noted that on Col. 5, lines 65 through Col. 6, lines 1-9; the reference teaches heating the material to activate the thermoplastic binder fibers (preheating). Weile et al. is silent to a cooling step after the activation of the binder fibers and the Examiner relies on the teachings of FRANK to provide it.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-5:00 pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Norca L. Torres-Velazquez
Primary Examiner
Art Unit 1771

September 7, 2006